



Hawaii Energy

# Hawaii Energy Efficiency Program

## Efficiency and Conservation The Other Side of Hawaii's Energy Equation

Derrick Sonoda  
Director of Operations



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# The Problem

Sunday, February 04, 2007

**Honolulu potholes visible from space**

**Pineapple Gone**



Posted on: Thursday, March 31, 2006

**'War on potholes' to cost \$70M**

Reporting a pothole

**Sugar Leaving**

## BUSINESS

Posted on: Sunday, August 31, 2008

**Airlines prepare cutbacks on routes, flight frequency**

## Star Bulletin

TUESDAY, SEPTEMBER 15, 2006

**9/11**  
MOMENTS OF SILENCE



**'A struggle for civilization'**

**Hawaii gas again stuck on high**

**Tourism Down**

The closure will result in the laying off of staff over the next two months. CEO Peter Nicholas said the decision was "purely a business one" related to delays in

## PACIFIC BUSINESS NEWS

HOME ONLINE EDITION PRINT EDITION

Search  Keywords  [Search Archive](#)

[Honolulu](#) > [News](#) > [Industries](#) > [Travel - Airlines & Airports](#)

Monday, March 31, 2008

**Aloha Airlines to stop flying Monday night; CEO calls it 'an incredibly dark day'**

Pacific Business News (Honolulu) - by [Jim Kelly](#)

## Star Bulletin

FRIDAY, OCTOBER 20, 2006



**HECO TALKS**

Power outage necessary to save system, utility says

**The need for WARP SPEED...**



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# The Problem / The Fix

Highest Energy  
Costs in US

**MOTIVATION**

Totally  
Dependent on  
Imported Oil

Mild  
Climate

**OPPORTUNITY**

Diverse  
Renewable  
Resources

*Up to 50% of the energy used for air-conditioning is used just to remove humidity.*



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# The Fix

- Hawaii Clean Energy Initiative

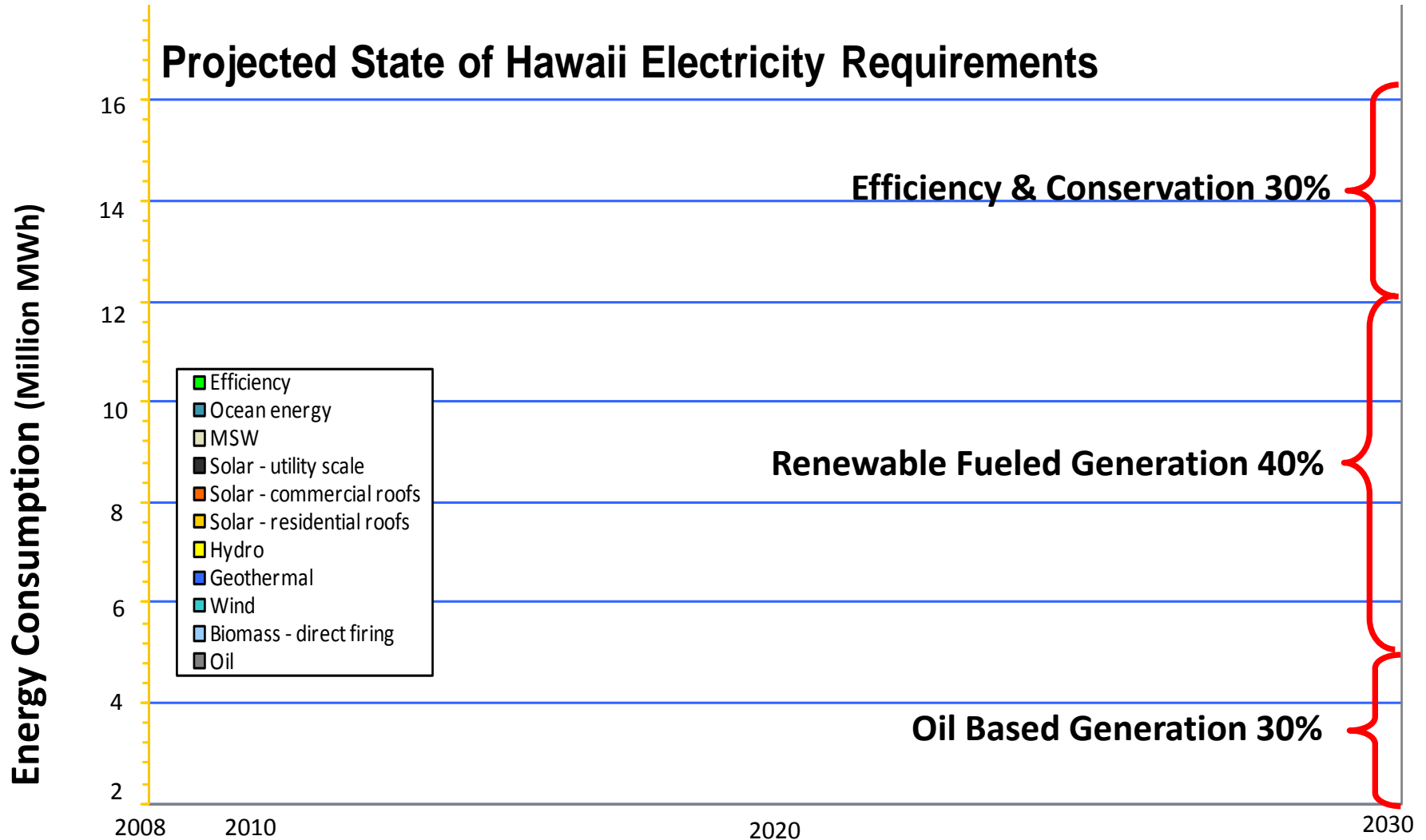


*Hawaii's diverse renewable resources will take considerable time to develop.*



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# The Fix



*A 100W light bulb on for a full year consumes about 2 barrels of oil.*



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# The Fix

## Enhanced Energy Awareness



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# The Fix – Interactive Website

The screenshot shows the Hawaii Energy website. At the top is a blue header with the Hawaii Energy logo and navigation links: HOME, WHY ENERGY EFFICIENCY?, ENERGY SOLUTIONS, REBATES, ABOUT THE PROGRAM, FIND A VENDOR, FORUM, NEWS & EVENTS, and INNOVATION. A search bar is also present. Below the header is a large banner with the text "Not more energy. Smarter energy. Ideas for Energy Solutions" and a woman's face. To the right of the banner are several interactive buttons: "Login to MyEnergy", "Track Your Usage Join the Effort", "Incandescent Bulb? Not So Smart.", "Watch Our New 15 Second Spot", "Be Smart. Save Money.", and "Download Coupons to Start Saving Now". Below the banner is a navigation bar with tabs for Home Owners, Renters, Property Managers, Business Owners, and Vendors. The main content area is divided into two columns. The left column is titled "Hawaii's Energy Progress" and features a line graph showing "Electric Consumption Graph" with tabs for "Oil Use Graph" and "Cooling Degrees Days". The graph shows a peak in March and a dip in July. Below the graph is a "Our Status" section with a lightbulb icon and the text "Average" and "Last Month: Poor". The right column is titled "News & Events" and features a photo of a woman and a headline: "September 14, 2009 Honolulu energy use increases by 15% since 2 years ago". Below the headline is a "Learn more >" link. At the bottom of the page is a footer with copyright information and links to "Contact", "Site Map", "Media Kit", "RSS Feeds", "Privacy Policy", and "Terms of Use".

- Interactive website
- Paperless on-line forms
- Peer comparisons
- Latest energy news
- Vendor advertising
- One-stop shop for energy info
- Customer blogs and critiques
- Links to other similar efforts

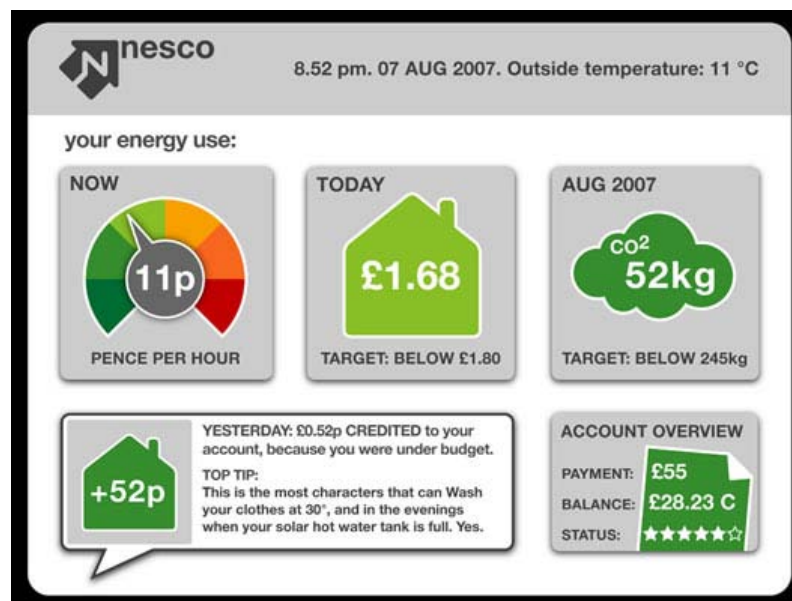


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# The Fix – Enhanced EE Program

## • Efficiency Program Overview

- Energy efficiency and renewable energy promotion
- Funded by electric utility rate payers
- Using financial incentives, market outreach and education
- All market sectors:
  - Residential
  - Commercial
  - Industrial
  - Government

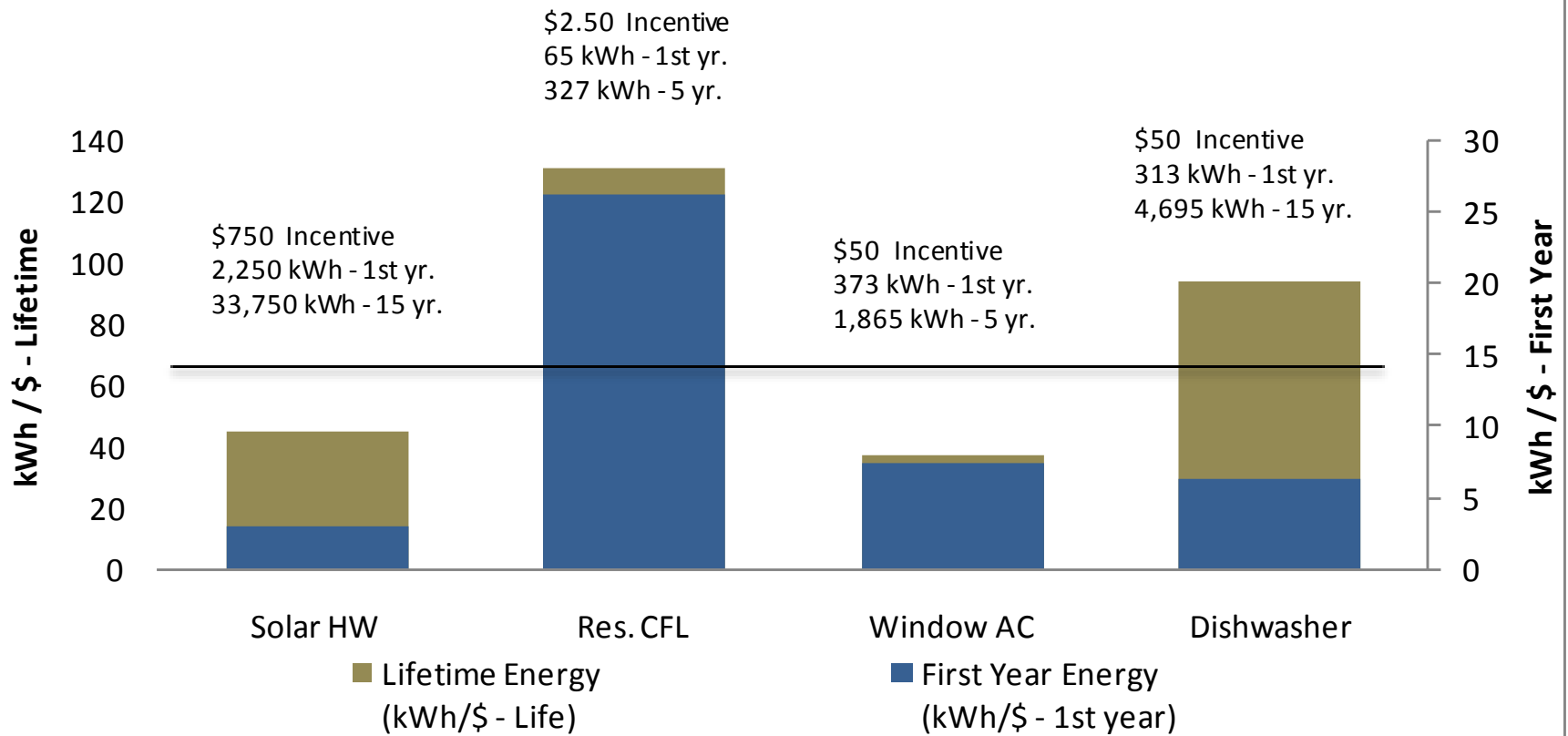


*Measurement is fundamental to real energy awareness.*



# The Fix

## Energy Saved per Dollar Invested





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# The Fix - Program Evolution

## Existing

- Prescribed Measures
- Pre-Set Rebates
- Pre-Set Savings
- Widely Available Products



## Future

- Motivating Behavior Changes
- Individual Energy Awareness
- Market Supplier Engagement
- Peer group Comparisons
- Whole Building Approach
- Renewable Technologies
- Targeted Audits
- Tune-Ups
- Custom Incentives

*Solar hot water heating can save up to 30% on a residential electric bill. 10*



# Market Intervention Strategies

- Natural markets to promote program activity
- Supply “channels”
- Business “clusters” of end-use groups
- Targeted vs. “Shotgun” approaches
- Market assessments
- Building Codes advancement



# The Fix - HVAC Incentives

## Prescriptive Incentives

- Room Window Units
- Package Units & Splits
- Water Cooled Chillers
- Premium Efficient Motors
- Domestic Water Pump Systems
- VFD – AHU Applications
- VFD – Chilled Water / Condenser Water Applications



# The Fix - Customized Incentives

- \$ 0.05 / kWh for first year savings
- \$125 / kW demand savings between 5 and 9 p.m.
- Up to 50% of Incremental Cost
- May require modeling and metering
- Examples - Forced Draft to Induced Draft Towers, Chilled Water Loop conversions, Outside Air Control etc.



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# The Fix - Energy Studies

- 50% matching up to \$10,000
- Load / Existing Performance Measurements
- Modeling new systems
- Actionable recommendations



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# The Fix – Design Assistance

- 50% matching up to \$10,000
- Above and beyond Code Requirements
- Targeted Energy Efficiency Levels
- Actionable recommendations



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# The Fix - Service Incentive

## Residential AC Service Program

- Registered Contractors
- Central Ducted AC Systems



# The Fix - HVAC Potential Items

## Potential Incentives Discussion

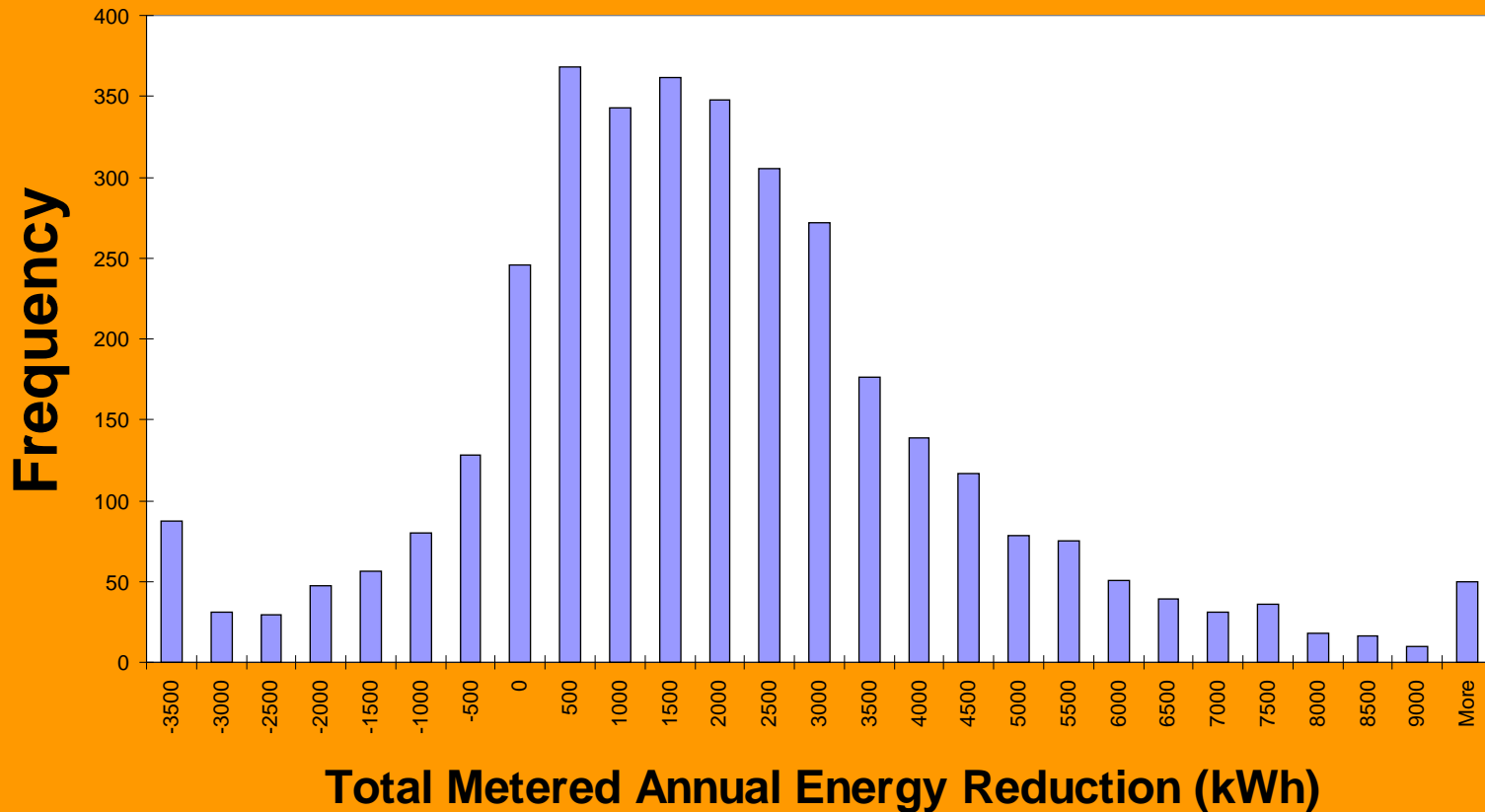
- Air Cooled Chillers
- Compressor Controllers
- Heat Pumps
- Central Plant Annual Tune Ups
- Split System Annual Tune Ups



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# The Fix - Data Mining and Refining

**Solar Water Heater Incentive Participants Savings Review**

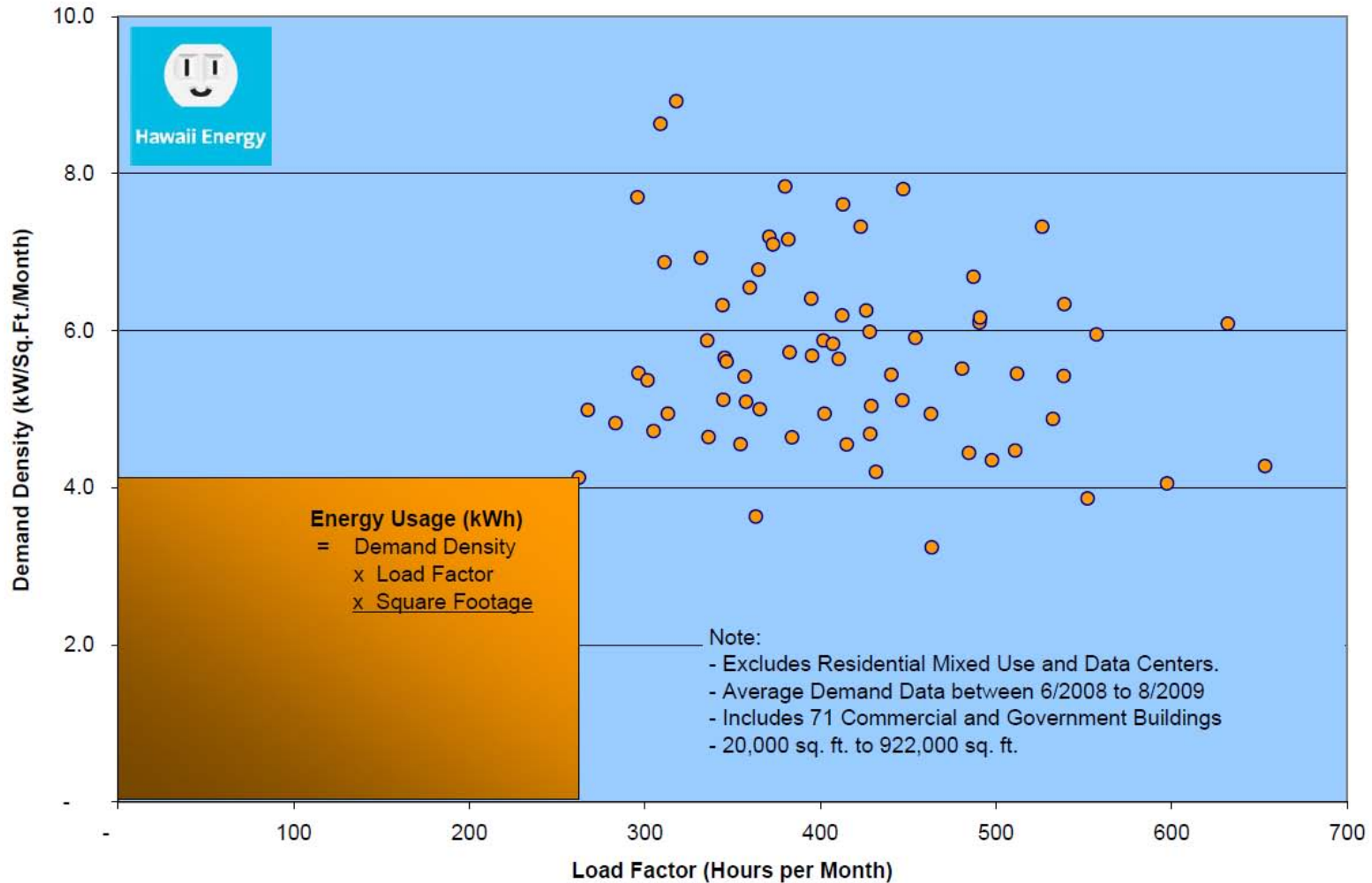




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# The Fix - Office Building Review

Office Buildings - Energy Use Load Factor Review



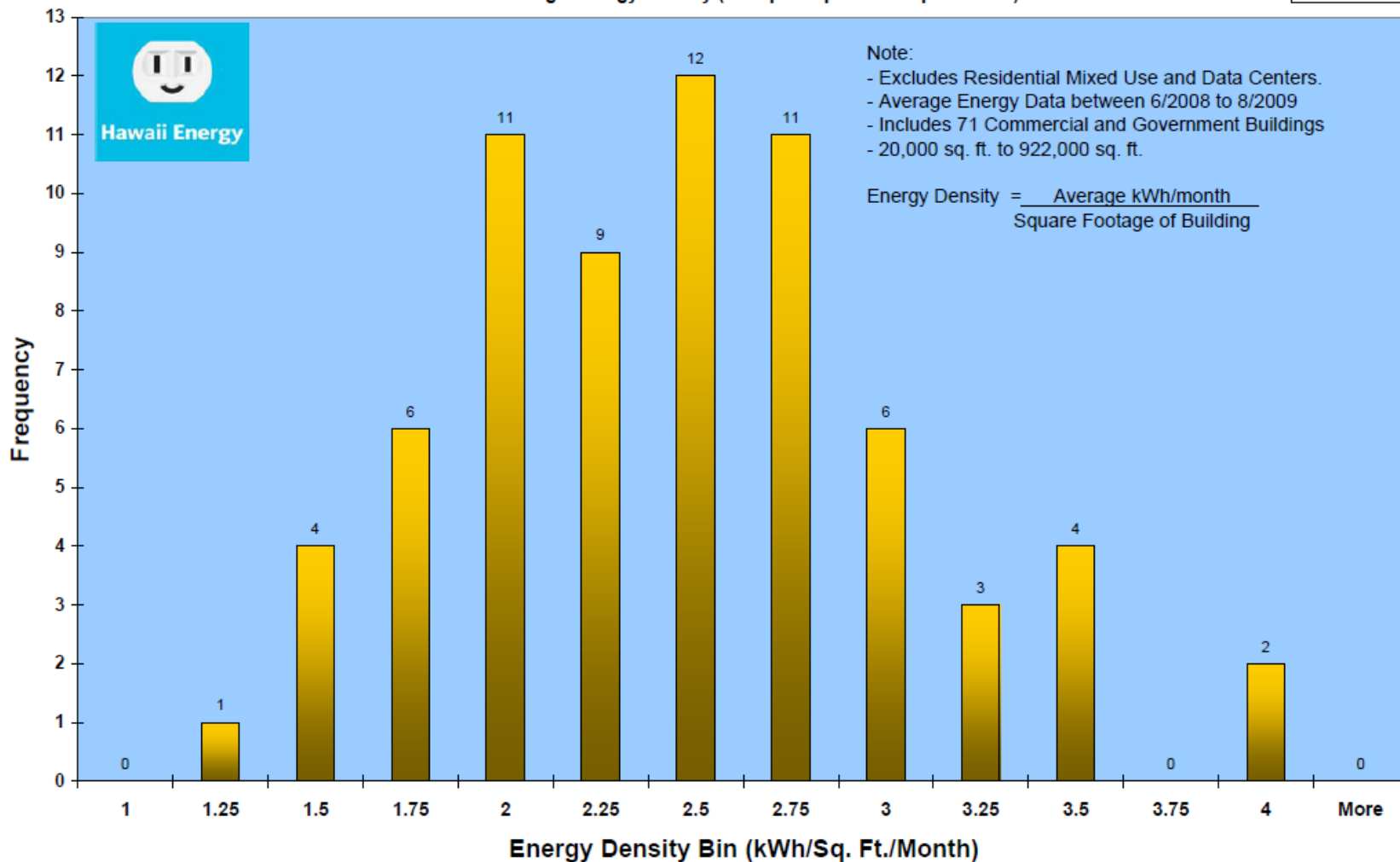


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# The Fix - Energy Density

Oahu Office Building - Energy Density (kWh per Square Foot per Month)

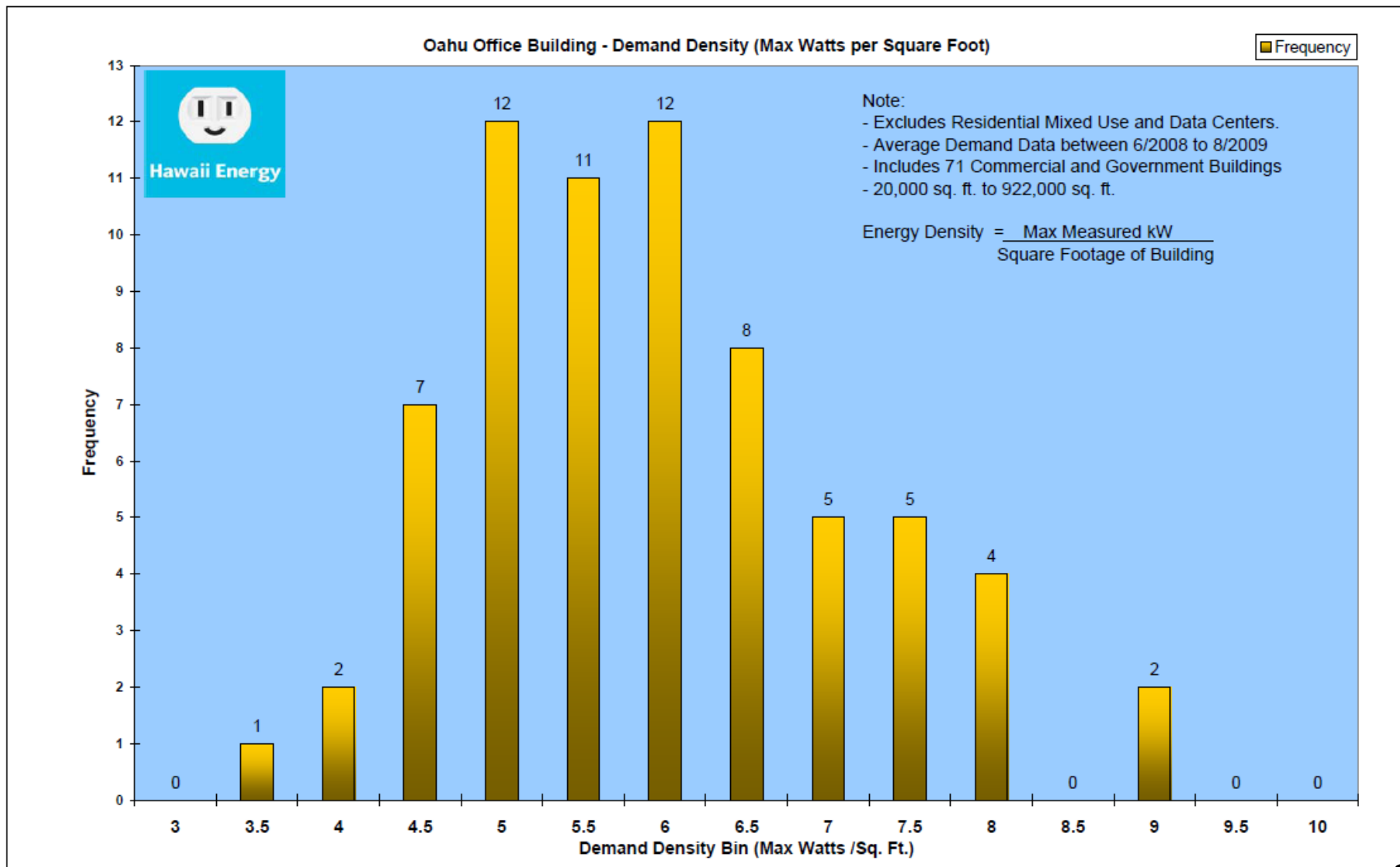
Frequency





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# The Fix - Demand Density



# Next Steps . . .

- Continue Program enhancements (internal and external)
- Expand all programs to neighbor islands
- Build collaborations with customers, vendors and allies
- Bring in ARRA stimulus \$\$
- Engage marketing plan and new interactive website
- Develop existing usage info to build peer comparisons
- Stay on top of Hawaii Energy's performance goals





# Hawaii Energy

[www.hawaiienergy.com](http://www.hawaiienergy.com)

Oahu 1-808-537-5577

Outer Island 1-877-999-7242